

Date: Thursday, 4/27/2006 9:17:31 AM  
 User: Linda Lacelle

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	206B FWD X-TUBE
<b>Job Number</b> :	26864		
<b>Estimate Number</b> :	12346		
<b>P.O. Number</b> :	N/A	<b>Part Number</b> :	D206667101
<b>This Issue</b> :	4/27/2006	<b>S.O. No.</b> :	N/A
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D206-667-141REV B
<b>First Issue</b> :	N/A	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	26378	<b>Drawing Revision</b> :	B
		<b>Material</b> :	N/A
<b>Written By</b> :		<b>Due Date</b> :	5/20/2006
<b>Checked &amp; Approved By</b> :		<b>Qty:</b>	1
<b>Comment</b> :	Est Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM		
		<b>Um:</b>	Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0

DC

DOCUMENT CONTROL

**Comment:** DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-101 CHG002

KJ 06.10.23

2.0

D6001105

Crosstube

**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6001-105 Crosstube 823965

Check OD = 2.250"; ID = 1.874"

BG 06.04.25

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE

**Comment:** MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA083

2-Turn first side as per Folio FA083

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D206-667-141.

BG 06.04.27

4.0

QC1

INSPECT ALL DIM TO DIM SHEET

**Comment:** INSPECT ALL DIM TO DIM SHEET

BG 06.04.27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 4/27/2006 9:17:31 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #: Machine Or Operation: Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA083

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-141.

3-Polish entire outside surface of crosstube

4-Remove sand and plugs

5-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-141

BG 06-04-27

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

BG 06-04-27

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.G 06/04/08

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

m.2 06/10/05

9.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-141 using CNC bender program 206B-fw and Folio FT

DP 7-1-22

10.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

207-01-25 @

11.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8541 & DT8542 as per Dwg D206-667-141. Drill all (3) top holes.

2-Drill & ream holes as per Dwg D206-667-141 using drill Jig DT8575 & DT8576. Drill all (3) top holes.

ET 07-01-25

[illegible]

LAUNCELOT RevD

Date: Thursday, 4/27/2006 9:17:32 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #:

Machine Or Operation:

Description :

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-141. Drill only the top (2) holes.

5-Drill pilot holes as per Dwg D206-667-141. Drill only the top (2) holes.

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-141.

Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-141.

8-C/sink holes as per Dwg D206-667-141. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-141

ST  
07-01-25

ST/HL 07-01-29

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

ST/HL 07-01-29

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

ST/HL 07-01-29

14.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

ST/HL 07-02-06

15.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 3046 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

ST/HL 07/02/06 ①

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

ST/HL 7/2/00

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 4/27/2006 9:17:32 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

*2070220 ①*

18.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

*ML 07 03 01*

①

2-Paint outside crosstube with White Imron as per QSI 005 4.2

*ML 07 03 05*

①

19.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

*RT 07-03-06*

20.0

D2856400

Abrasion Strip -



Comment: Qty.: 1.2138 f(s)/Unit Total : 1.2138 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 6.94") Abrasion Strip *B29285*

21.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate *328387*

22.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045 Nut Plate *28695*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

D28911

Support 2.25 dia



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2891-1

Support 29086

24.0

MS20601AD4W8



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W8 Rivet

100771

25.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-20

Clamp 102787

26.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8579. Note: (3) top holes should be facing up.

2-Install supports and clamps as per Dwg D206-667-141. Torque clamps to 80-100 in lb

3-Install nut plates as per Dwg D206-667-141. Touch-up rivet heads with Imron paint.

} IT  
07-05-07

27.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

28.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: RD Date: 07/03/14  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date:  
User:

Date: Thursday, 4/27/2006 9:17:32 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #:

Machine Or Operation:

Description :

29.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)  
Bolt  
Batch: M103338 ✓

30.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)  
Nut  
Batch: M140564 ✓

31.0

AN57A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
10 AN5-7A Bolt M102140 ✓

32.0

AN530A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
4 AN5-30A Bolt M102083 ✓

33.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
18 AN960JD516 Washer M102519 ✓

34.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Identify and pack for shipping as per PPP D206-667-101  
Location: C  
PPP Rev: C

Date: Thursday, 4/27/2006 9:17:32 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206B FWD X-TUBE

Job Number: 26864

Part Number: D206667101

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL  
Inspection Level 21

07/03/14 (1)

Job Completion



CU 07-03-14

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	
<b>Description:</b> Crosstube Assembly		<b>Part Number:</b>	
<b>Inspection Dwg:</b>	<b>Rev:</b>	<b>Page 1 of 1</b>	

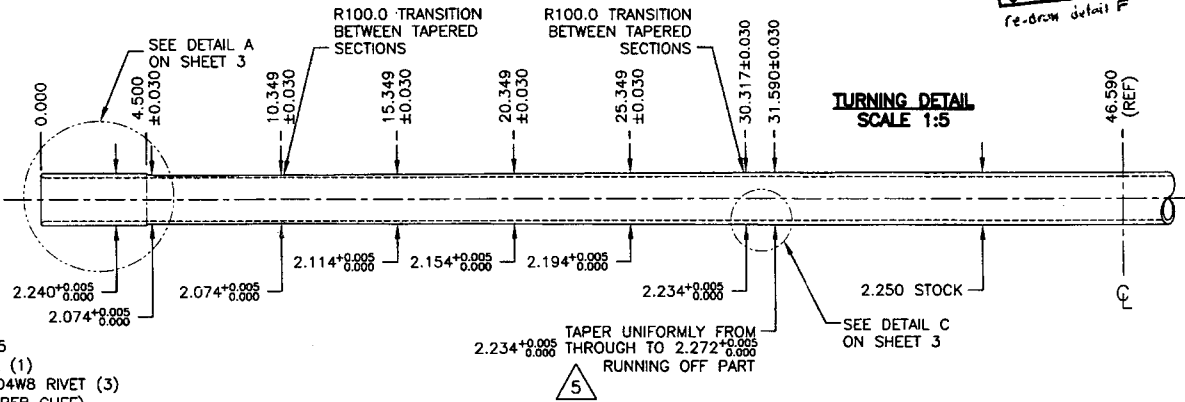
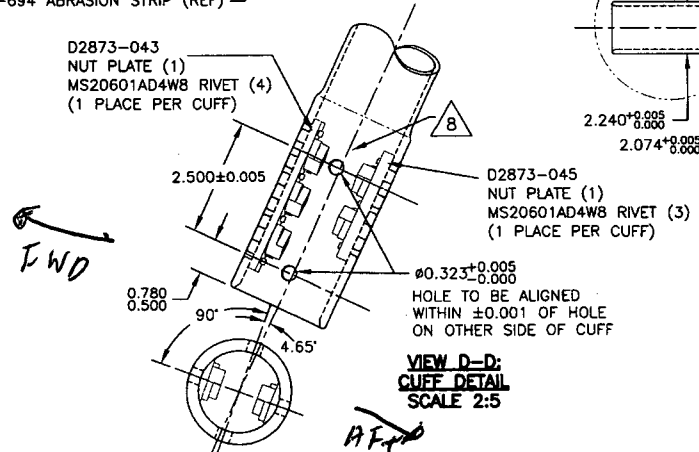
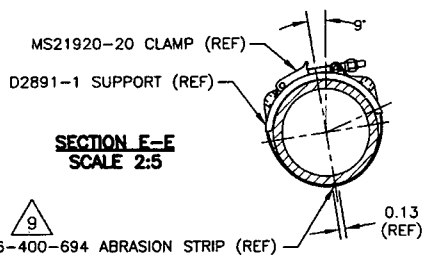
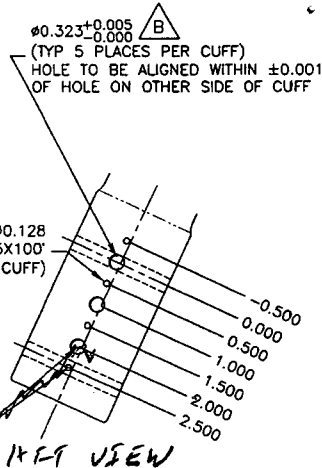
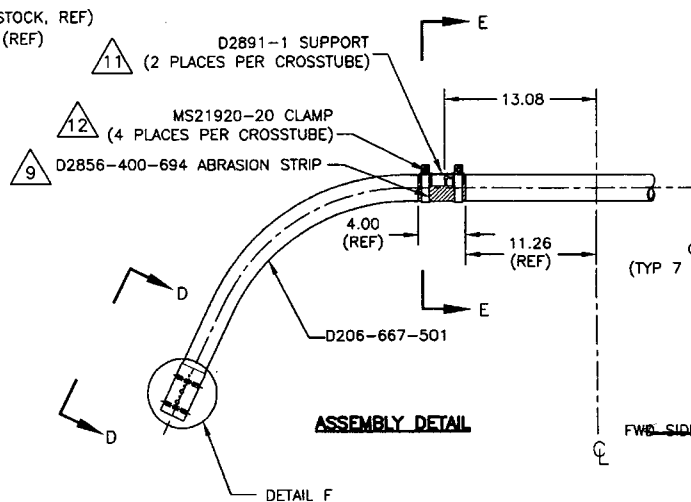
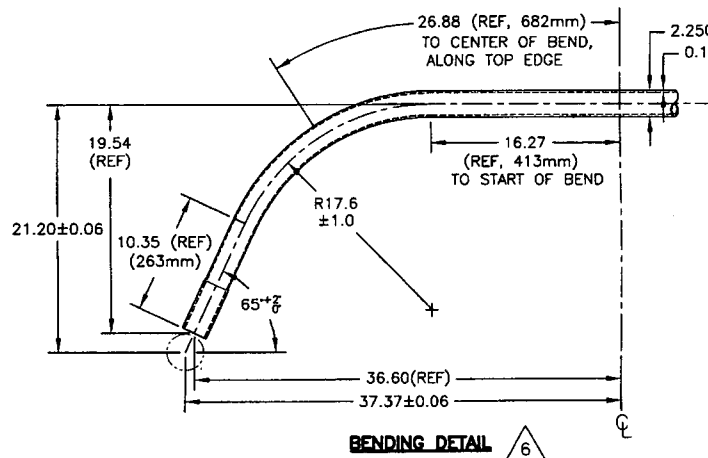
### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype



Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	$\pm 0.005$	2.242	✓			
	2.074	"	2.075	✓			
	2.114	"	2.116	✓			
	2.154	"	2.156	✓			
	2.194	"	2.196	✓			
	2.234	"	2.235	✓			
	R.063	$\pm 0.01$	.063	✓			
	.110	"	.110	✓			
	4.438	$\pm 0.02$	4.438	✓			
SIDE B	2.240	$\pm 0.005$	2.243	✓			
	2.074	"	2.076	✓			
	2.114	"	2.117	✓			
	2.154	"	2.158	✓			
	2.194	"	2.196	✓			
	2.234	"	2.236	✓			
	R.063	$\pm 0.01$	.063	✓			
	.110	"	.110	✓			
	4.438	$\pm 0.03$	4.438	✓			
	93.18	$\pm 0.02$	93.180	✓			

<b>Measured by:</b> B.C.	<b>Audited by:</b> J.G.	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 06.04.27	<b>Date:</b> 06/04/28	<b>Date:</b>	N/A

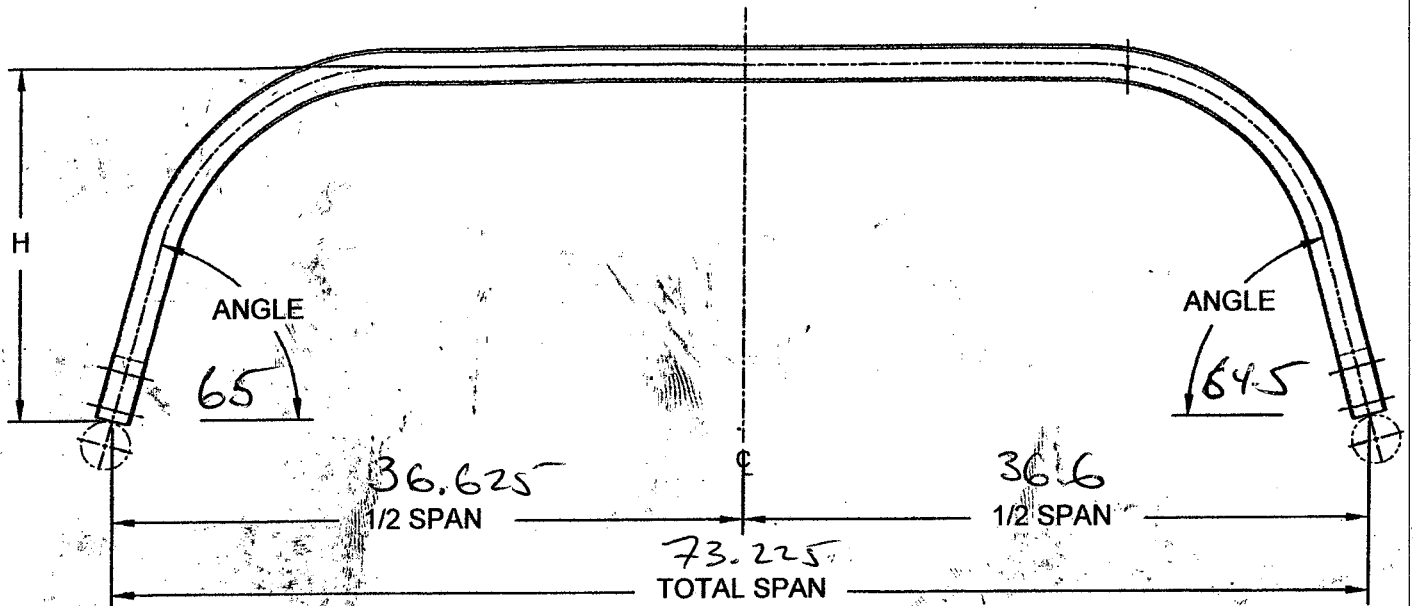
<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>	<b>Approved</b>
A		New Issue	KJ/JLM	



**UNDER REVIEW**  
06.08.10 PH  
re-draw detail F

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN	DRAWN BY	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
		PH	PH		
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	APPROVED	DRAWING NO.	REV. B
		 DS	 DS	D206-667-141	SHEET 2 OF 3
		DATE		TITLE	SCALE
		05.07.26		CROSSTUBE ASS'Y (206B HIGH FWD)	1:10

# Crosstube Bend Dimension Sheet



PART NUMBER: D206 667 101

BATCH NUMBER: 026864

DRAWING: D206 667 141 REVISION: 13

H: 19.74

1/2 SPAN: 36.6

TOTAL SPAN: 73.2

ANGLE: 65°

QC 15: 2

DATE: 07-01-25

QTY: 1

**HeathAir**

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3  
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 35707

A.M.O. Number: 46/90

**NON-DESTRUCTIVE TESTING REPORT****AIRCRAFT / COMPONENT INFORMATION**

REGISTRATION:

MODEL TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

**INSPECTION REQUIREMENTS**

Carry out FPI of (10) cross tubes (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (4) P/N D206-667-101 S/N's B29099, B28680, B29101 and B26864.

Qty (4) P/N D206-667-201 S/N's B30316, B30319, B29098 and B29096.

Qty (2) P/N D407-667-205 S/N's B26323 and B28983.

☐ RADIOGRAPHY☐ ULTRASONIC☒ PENETRANT☐ MAGNETIC PARTICLE☐ EDDY CURRENT**INSPECTION REPORT**

Fluorescent penetrant inspection was performed in accordance with the above requirements on (10) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)  
Ardrox 970P25E Batch #04B503.

(10) cross tubes inspected. (6) PASSED / (4) FAILED.

Details: Failed S/N's B29099, B28680, B29101 and B29098.  
- tubes are marked at locations requiring rework.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH  
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY: 

DATE February 12, 2007

INSPECTION  
STAMP(S) **CUSTOMER INFORMATION**

CUSTOMER:

Dart Aerospace

P.O. NUMBER

PO 00003046

ADDRESS:

CONTACT NAME:

Linda Lacelle

LABOUR

②

F. (613) 632-1053

\$

MATERIALS

②

TRAVEL EXPENSES

②

GST

HOTEL EXPENSES

②

PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT